For IBC use only	**Protocol #:**
Next Renewal Due: **Next Rewrite Due:**	

Georgia State University
Institutional Biosafety Committee Research Registration Form

Principal Investigator:	Matthew Brewer
Project Title:	Protein Products from Pichia and Tobacco (iGEM)
Department:	Biology
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Email:	mbrewer@gsu.edu
Laboratory Safety Representative:	Matthew Brewer
Laboratory Safety Representative Phone:	678-704-9264
Laboratory Safety Representative Email:	mbrewer@gsu.edu
Building and Laboratory Room Number:	Kell 439

1. Project Description

Outline the overall goal(s) of the project in the space below. Give enough information to assure that the purpose of the experiments and the techniques used are clear. Please use reasonably lay terms and spell out all acronyms/initialisms.

In Georgia, legislation has recently been passed that allows for the legal use of cannabidiol (CBD) oil for the treatment of seizures and other debilitating conditions. Unfortunately, the CBD oil that is currently available is isolated from cannabis and is contaminated with tetrahydrocannabinol (THC) or contains such low-levels of CBD to be rendered ineffective for private voluntary medical use. The goal of our project is to produce CBDA-synthase in transgenic tobacco plants, which catalyzes the production of CBD without the production of THC. In parallel to introducing CBDA-synthase to transgenic tobacco plants, we are also trying to express the enzyme in pichia pastoris. Our project will involve design of recombinant expression systems for both Pichia Pastoris expression and Agrobacter tumifaciens transformation of tobacco. If successful, we will have generated a recombinant form of CBDA synthase which can then be used to produce CBD in the state of Georgia, avoiding the need to import the oil from cannabis-growing states, and eliminating THC contamination.

1a. Material and Methods

Outline of the overall experiment(s) that will be performed in the space below. Give enough information to assure that the procedures of the experiments and the techniques used are clear. Please use reasonably lay terms and spell out all acronyms/initialisms.

- Recombinant DNA techniques will be used to produce expression contructs for use in E. coli, Pichia pastoris, Agrobacter tumifaciens, and Nicotiana tabacum.
- We will be culturing small volumes of E. coli, Pichia pastoris, and Agrobacter tumifaciens, no more than 1 L at a time for transformation with our recombinant DNA constructs and expression of transgenes.
- Plant tissue culture will be used to grow sterile Nicotiana tabacum plants for transformation by Agrobacter and expression of the CBDA synthase enzyme and various marker proteins such as GFP and HRP.
- After transformation, we will attempt to produce CBDA synthase enzyme in both Pichia yeast and tobacco plants. None of these organisms will ever leave the lab and none of our gene products will be tested on any animals.

1b. Describe procedures involving the use of infectious biological agent(s) or toxin(s) [If animals are being used with infectious agents or toxins, please include (copy/paste) that information from the IACUC research protocol here:

We are not using any toxic or infectious agents. We are not using any animals.

2. Laboratory Personnel Information

Name of Laboratory Personnel	Title (e.g.. faculty, technical staff, graduate students, undergraduate, etc.)	Email Address	Phone Number
Matthew Brewer	**Faculty**	**mbrewer@gsu.edu**	**678-704-9264**
Victoria Mariani	**Faculty**	**vmariani@gsu.edu**	Click here to enter text.
Jessica Siemer	**Graduate Student**	**Jsiemer1@student.gsu.edu**	Click here to enter text.
Maruf Hoque	**Graduate Student**	**Mhoque2@student.gsu.edu**	**678-480-2667**
Holly Bowman	**Student**	hbowman1@student.gsu.edu	404-849-4425
Tran Dang	**Student**	tdang23@student.gsu.edu	404-862-1297
Julio Falcon	**Student**	jfalcon1@student.gsu.edu	470-246-9075
Zahra Faraj	**Student**	zfaraj1@student.gsu.edu	404-707-0028
Muddassar Hussan	**Student**	mhussan1@student.gsu.edu	678-982-4830
Yousef Ibrahim	**Student**	yibrahim1@student.gsu.edu	770-371-4499
Laura Irvin	**Student**	lirvin6@student.gsu.edu	404-573-2683
Grace Purvis	**Student**	gpurvis1@student.gsu.edu	478-463-5147
Joseph Whitley	**Student**	jwhitley5@student.gsu.edu	678-920-2482
Yue Zhenfei9	**Student**	zyue1@student.gsu.edu	404-512-2871

3. Compliance Protocol Numbers Related to this Protocol

Radiation Safety Protocol No(s):	Click here to enter text.
IACUC Protocol No(s):	Click here to enter text.
IRB Protocol No(s):	Click here to enter text.
IBC Protocol No(s):	Click here to enter text.

4. Protocol Summary

Biosafety Level: (Check all that apply)	☐ ABSL-1	☐ ABSL-2	☐ ABSL-3	
	☒ BSL-1	☐ BSL-2	☐ BSL-3	☐ BSL-4
	☐ Does Not Apply			
Is this project part of a course or teaching laboratory?	☒ Yes	☐ No		
Will live animals be used for this project?	☐ Yes	☒ No		
What type of wastes will be generated?				

☒ Biohazardous Waste ☒ Chemical ☐ Radiological

☐ Mixed radioactive/biological ☒ Mixed chemical/biological

Is this a funded project?

☐ National Institute of Health (NIH) ☐ Department of Defense (DoD)

☐ National Science Foundation (NSF) ☐ Centers for Disease Control and Prevention (CDC)

☐ Department of Agriculture (USDA) ☒ Other

☐ Does Not Apply

Will this project involve:

☐ Human Material (Blood, Saliva, Urine, etc.)

☐ Non-Human Primates Material (Blood, Salvia, Urine, etc.) ☒ Plants

☐ Venomous Invertebrates or Vertebrates ☐ Select Agents or Toxins

☒ Bacterial Agents ☒ Fungal Agents

☐ Viral Agents ☐ Toxic Agents from Microorganisms/Animals

☐ Possible Blood Borne Pathogens ☐ Prions

☐ Rickettsia Agents ☐ Arboviruses and Related Zoonotic Viruses

☐ Recombinant or Synthetic Nucleic Acid Molecules that encodes and expresses toxins

☒ Recombinant or Synthetic Nucleic Acid Molecules that encodes and expresses proteins

☐ Recombinant or Synthetic Nucleic Acid Molecules from a USDA regulated plant or animal

☒ Recombinant or Synthetic Nucleic Acid Molecules

☐ Growing more than 10 liters of recombinant material or cultures at a time

☐ Moving non-indigenous species of plants or animals (including offspring) into Georgia?

☐ Moving pathogens that adversely affect plants or animals into Georgia?

☐ Moving indigenous species of plants or animals infected with pathogenic microorganisms Into or out of Georgia?

☐Fish ☐Lizards ☐Mice ☐Rats ☐Hamsters ☐Birds ☐Non-Human Primates ☐Insects

☐Other Click here to enter text. ☐ Does Not Apply

5. Are you growing more than 10 liters of recombinant material or any type of cultures? If yes, please identify the building, room, and type of equipment used for large scale culture growth in the block below? ☐ Yes ☒ No

☐ Does Not Apply

Click here to enter text.

6. Georgia State University Laboratory Policies

	Yes	No
Laboratory Sign on door has the Universal Biohazardous Symbol, Biosafety Level, Principal Investigator's Name and Phone Number.	☒	☐
Eating, drinking, smoking, handling contact lenses, applying cosmetics, and storing of food for human consumption is prohibited in the laboratory.	☒	☐
Procedures describing the appropriate personal protective equipment required for entering and exiting the laboratory are posted near the door.	☒	☐
Laboratory-specific Biosafety manual is prepared, adopted, available and accessible.	☒	☐
Laboratory equipment is routinely decontaminated with the appropriate disinfectant described below in Section 3a: Method(s) of Disinfection: Click here to enter text.	☒	☐
All procedures are performed to minimize the creation of splashes and/or aerosols.	☒	☐
All procedures involving the manipulations of infectious material that may generate an aerosol will be conducted within a Biosafety Cabinet (vortexing, sonicating).	☒	☐
Principal Investigator will provide information regarding immune competence and conditions that may predispose laboratory personnel to infections.	☒	☐
Incidents resulting in exposure to infectious materials will be immediately reported to the Biosafety Officer (404-413-3510).	☒	☐
Only plants and animals associated with the work being performed will be allowed in the laboratory.	☒	☐
Vacuum lines have HEPA filters in place before vacuum pump or the vacuum valve.	☒	☐
Emergency Chart and Call Down list are posted in the Laboratory.	☒	☐
Policies for safe handling of sharps are posted.	☒	☐
Broken glassware is removed using a dust pan, brush, tongs, forceps or other mechanical means.	☒	☐
Proper gas tubing is being used in with Bunsen Burners.	☒	☐
Compressed Gas Cylinders are properly secured.	☐	☐
All Mercury Thermometers have been replaced with non-mercury thermometers (http://www.gsu.edu/research/59296.html) unless otherwise specified in this IBC protocol.	☒	☐
A Chemical Hygiene Plan is prepared, and adopted, available and accessible.	☒	☐
All chemical waste will be removed through scheduled pick up by GSU Environmental Programs Group (https://chematix.gsu.edu/Chematix/). Only soap and water will be allowed down the sink drains in the laboratory.	☒	☐
Hazardous Waste Containers are properly labeled.	☒	☐
MSDS access is available through Chematix.	☒	☐
Chemicals are properly stored and inventoried in Chematix.	☒	☐
All toxins and DEA Controlled Substances are semi-annually inventoried by the Principal Investigator or designee in Chematix and/or document controlled inventory (electronically encrypted inventory or paperbound log book that is physically locked in a key controlled cabinet).	☒	☐
Will you follow all of the 49 CFR 171 requirements for the shipment of biological material as specified in GSU Shipment of biological Materials Manual	☒	☐

7. The biosafety cabinets and laboratory benches will be disinfected by:

	Yes	No
Ethanol, 70% with a 15 minute contact time.	☒	☐

Freshly made 1:10 solution of bleach (5% or more of the active ingredient, sodium hypochlorite) with a 3 minute contact time.	☒	☐
Glutaraldehyde solution with a 10 minute contact time. Name commercial disinfectant here: Click here to enter text.	☐	☐
Ortho-phthalaldehyde solution with a 5 minute contact time. Name commercial disinfectant here: Click here to enter text.	☐	☐
Other method of disinfecting and contact time. Name disinfectant here: Click here to enter text.	☐	☐

8. Waste Materials will be sterilized by:

	Yes	No
Autoclave: 15 minutes at 121°C	☒	☐
Incineration of infectious material and/or animal carcasses: http://www.gsu.edu/images/vp_research/Biohazardous_Waste_Disposal.pdf	☐	☒
Sharps containers will be incinerated according to GSU policies: http://www.gsu.edu/images/vp_research/Sharps_Disposal_Procedures.pdf	☒	☐
List other method of Sterilization: Click here to enter text.	☐	☐

9. Laboratory Equipment and Personal Protective Equipment

Click here to enter text.	Will Laboratory Workers require: ☐ Pre-project and Post-project serum samples ☐ Immunizations ☐ Medical Monitoring or Surveillance ☐ N-95 Masks, PAPRs, or other respiratory equipment Note: Surgical Masks are to prevent fecal-oral exposure to infectious agents. N-95 Masks and PAPRs are to prevent exposure to dust, animal dander, and infectious aerosols.
Building/ Room(s)	**Biosafety Level**
Kell 439	**BSL-1 Required:** Laboratory Coat BSL-1 Recommended: ☒ Gloves ☒ Safety Glasses/Side shields/Safety Goggles ☒ Biosafety Cabinet ☒ Fumehood
Click here to enter text.	**BSL-2 Required:** Laboratory Coat, Gloves, Safety Glasses/Side shields/Safety Goggles BSL-2 Recommended: ☐Booties ☐ Surgical Mask ☐ N-95 Mask ☐ PAPR ☐ Fumehood ☐ Biosafety Cabinet ☐ Other: Click here to enter text.
Click here to enter text.	**BSL-3 Required:** Laboratory Coat, 2 Pairs of Gloves, Safety Glasses/Side shields/Safety Goggles, Booties

	BSL-3 Respiratory Protection: ☐ N-95 Mask ☐ PAPR ☐ Other: Click here to enter text.
Click here to enter text.	**BSL-4 Required:** Laboratory Coat, 2 Pair of Gloves, Safety Glasses/Side shields/Safety Goggles, Booties Scrubs BSL-4 Recommended: ☐ N-95 Mask ☐ Tyvek w/ hood and foot covers ☐ PAPR ☐ Other: Click here to enter text.
Click here to enter text.	**ABSL-1 Required:** Laboratory Coat, Gloves ABSL-1 Recommended: ☐ Surgical Mask ☐ N-95 Mask ☐ PAPR ☐ Cage Change Station ☐ Other: Click here to enter text.
Click here to enter text.	**ABSL-2 Required:** Laboratory Coat, Gloves, Safety Glasses/Side shields/Safety Goggles, Booties, Biosafety Cabinet ABSL-2 Recommended: ☐ Surgical Mask ☐ N-95 Mask ☐ PAPR ☐ Other Click here to enter text.
Click here to enter text.	**ABSL-3 Required:** Biological Safety Cabinet, Scrubs, Tyvek® Cover Up or equivalent, Gloves with cuffs, PAPR, Booties Tyvek® Cover Up = Tyvek suit with hood and foot covers (all in one) ☐ SCBA ☐ Other: Click here to enter text.

10. Are you working with genetic elements, recombinant nucleic acids, recombinant DNA (rDNA) or recombinant organisms? ☐ Yes ☐ No If yes, you must complete questions 11a-11e. If no, go to question 12.

	Yes	No
Are you deliberately transferring a drug resistance trait to microorganisms that are not known to acquire the trait naturally? See Section III-A-1-a of the NIH Guidelines for more information.	☐	☒
Are you deliberately producing recombinant or synthetic nucleic acid containing genes for the biosynthesis of toxin molecules lethal for vertebrates at an LD_{50} of less than 100 nanograms per kilogram body weight (e.g., microbial toxins such as the botulinum toxins, tetanus toxin, diphtheria toxin, and *Shigella dysenteriae* neurotoxin). See Section III-B-1 of the NIH Guidelines for more information.	☐	☒
Are you deliberately transferring Recombinant or Synthetic Nucleic Acid Molecules, or DNA or RNA derived from Recombinant DNA or Synthetic Nucleic Acid Molecules, into human research participants? See Section III-C-1of the NIH Guidelines for more information.	☐	☒
Are you performing experiments Using Risk Group 2, Risk Group 3, Risk Group 4, or Restricted Agents as **Host-Vector Systems**? See Section III-D-1of the NIH Guidelines for more information.	☐	☒
Are you performing experiments in which DNA from Risk Group 2, Risk Group 3, Risk Group 4, or Restricted Agents is **cloned into Nonpathogenic Prokaryotic or Lower Eukaryotic Host-Vector Systems**? See Section III-D-2 of the NIH Guidelines for more information.	☐	☒
Are you performing experiments involving the use of Infectious DNA or RNA Virus or Defective DNA or RNA Viruses in the **presence of Helper Virus in Tissue Culture System**? See Section III-D-3 of the NIH Guidelines for more information.	☐	☒

Are you performing experiments involving Whole Animals that include either: • ABSL-2 (medium level) or ABSL-3 (high level) containment; and • altering the animals genome by introduction of recombinant or synthetic nucleic acid molecules or nucleic acids derived therefrom, into germ-line (transgenic animals); or ☐ Yes ☐ No • exposing whole animals to recombinant or synthetic nucleic acid molecules or nucleic acid molecules-modified microorganisms? ☐ Yes ☐ No See Section III-D-4 of the NIH Guidelines for more information.	☐	☒
Are you performing experiments involving Whole Plants? See Section III-D-5 of the NIH Guidelines for more information.	☐	☒
Are you performing experiments involving More than 10 Liters of culture? See Section III-D-6 of the NIH Guidelines for more information.	☐	☒
Are you performing experiments involving Influenza Viruses including but not limited to: • generating influenza viruses from recombinant or synthetic methods; ☐ Yes ☐ No • reverse genetics of chimeric viruses with reasserted segments; ☐ Yes ☐ No • introduction of specific mutations; ☐ Yes ☐ No • using Human H2N2 (1957-1968); ☐ Yes ☐ No • using Highly Pathogenic Avian Influenza H5N1strains; ☐ Yes ☐ No • using 1918 H1N1; or ☐ Yes ☐ No • testing antiviral susceptibility? ☐ Yes ☐ No See Section III-D-7 of the NIH Guidelines for more information.	☐	☒
Are you performing experiments involving the Formation of Recombinant DNA Molecules Containing No More than Two-Thirds of the Genome of any Eukaryotic Virus? See Section III-E-1 of the NIH Guidelines for more information.	☐	☒
Are you performing experiments involving Whole Plants? See Section III-E-2 of the NIH Guidelines for more information.	☒	☐
Are you performing experiments involving Transgenic Rodents that: • only require ABSL-1(low level) containment; and • that include altering the animals genome by introduction of recombinant or synthetic nucleic acid molecules or nucleic acids derived therefrom, into germ-line (transgenic animals)? See Section III-E-3 of the NIH Guidelines.	☐	☒
Are you performing experiments that present a significant risk to health or the environment? See Section III-F-8 of the NIH Guidelines for more information.	☐	☒
Exempt Experiments: The following recombinant or synthetic nucleic acid molecules are exempt from the NIH Guidelines; however, other federal and state standards of biosafety may still apply to such research (for example, the Centers for Disease Control and Prevention (CDC)/NIH publication Biosafety in Microbiological and Biomedical Laboratories)		
Are you performing experiments that include synthetic nucleic acids that: • can neither replicate nor generate nucleic acids that can replicate in any living cell; and • are not designed to integrate into DNA; and • do not produce a toxin that is lethal for vertebrates at an LD50 of less than 100 nanograms per kilogram body weight? See **Section III-F-1 of the NIH Guidelines** for more information.	☒	☐
Are you performing experiments that are: • not in organisms, cells, or viruses; and	☒	☐

• that have not been modified or manipulated to render them capable of penetrating cellular membranes? See **Section III-F-2 of the NIH Guidelines** for more information.		
Are you performing experiments that consist solely of the exact recombinant or synthetic nucleic acid sequences from a single source that exists contemporaneously in nature? See **Section III-F-3 of the NIH Guidelines** for more information.	☐	☒
Are you performing experiments that consist entirely of nucleic acids from a prokaryotic host including its indigenous plasmids or viruses when propagated only in that host (or a closely related strain of the same species), or when transferred to another host by well-established physiological means? See **Section III-F-4 of the NIH Guidelines** for more information.	☐	☒
Are you performing experiments that consist entirely of nucleic acids from an eukaryotic host including its chloroplasts, mitochondria, or plasmids (but excluding viruses) when propagated only in that host (or a closely related strain of the same species)? See **Section III-F-5 of the NIH Guidelines** for more information.	☐	☒
Are you performing experiments that consist entirely of DNA segments from different species that exchange DNA by known physiological processes, though one or more of the segments may be a synthetic equivalent? See **Section III-F-6 of the NIH Guidelines** for more information.	☐	☒
Are you performing experiments with those genomic DNA molecules that have acquired a transposable element, provided the transposable element does not contain any recombinant and/or synthetic DNA? See **Section III-F-7 of the NIH Guidelines** for more information.	☐	☒

11. Specify the Recombinant or Synthetic Nucleic Acid Molecules, including as much information as possible about:

- **nature of the insert;**
- **protein that may be expressed;**
- **percentage of any viral genome in the construct;**
- **cloning/expression/transfection vectors used;**
- **recipient host cell lines (human, animal, plant, etc.) or bacterial strains;**
- **packaging cell lines and assay system used to measure helper virus titre or titre of replication competent virus (background) generated;**
- **host range of packaged viral vector; and**
- **expected phenotype of the animal if applicable, including any expected behavioral traits, disease predispositions, or health problems.**

Recombinant products include: various fluorescent proteins to be used as reporters in bacteria and yeast; CBDA synthase, an enzyme that catalyzes formation of CBD, to be expressed in Pichia pastoris and Nicotiana tabacum; horseradish peroxidase to be used as a reporter in nicotiana tabacum. Cloning vectors pSB1C3 (chloramphenicol resistance) and pSB1A3 (ampicillin), and pSB1K3 (kanamycin) will be used in E. coli. Modified Ti plasmids will be used in Agrobacter and tobacco. The pGAPz and pPIC9 expression vectors will be used for expression in Pichia.

12. Are you are working with biological material that may be infectious or a toxin? ☐Yes ☒No If yes, then you must complete 12. If No, then go to question 13.

12a. Will the Biological Agent(s) / Microorganism(s) / Toxin(s) be:

☐ Cultured from Human Tissue or Blood?

☐ **Cultured from Animal Tissue or Blood?**

☐ **Cultured from an Environmental Sample such as air, water, soil, or plants?**

☐ **Cultured by a Principal Investigator from Georgia State University?**

If yes, what is the name of the PI: Click here to enter text.

☐ **Cultured in a laboratory outside of Georgia State University?**

If yes, what is the name of the PI and the Laboratory: Click here to enter text.

☐ **Does Not Apply**

12b. Name the Biological Agents(s)/Microorganism(s), Biosafety Level, and "X" the source.

			Source or Origin: Click here to enter text.														
Biological Agent(s) / Microorganism(s) / Toxin(s) and Strains	**Biosafety Level** (1, 2, 3, or 4)	**Blood borne Pathogens or other potentially infectious material**	**Addgene**	**ATCC**	**Agilent/ Stratgene**	**BioRad**	**EMD**	**Fermentas**	**Fisher Scientific**	**NEB**	**Qiagen**	**Roche**	**Georgia State Univ.**	**Georgia Tech**	**Univ. of GA**	**VWR**	**If Other please specify**
E. coli	1	☐	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	☒	☐	☐	☐	
P. pastoris	1	☐	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	☒	☐	☐	☐	
A. tumifaciens	1	☐	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	
Click here to enter text.	#	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Click here to enter text.	#	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	

Other: Click here to enter text.

13. Are you working with a Human Source or Non-Human Primate Material? ☐Yes ☒No. If yes, you must complete Question 13. If no, go to question 14.

	Yes	No
Has everyone in the laboratory completed the online Bloodborne Pathogen Training Course for the Board of Reagents of the University System of Georgia? (http://www.usg.edu/ehs/training/pathogens/)	☐	☐
Was a health screening done on the source material? If yes, please attach a copy of the report.	☐	☐
Will human and/or non-human primate material be administered to animals?	☐	☐
If you are using biological material that may contain Bloodborne Pathogens, do you have an Exposure Control Plan (ECP) on file with the Office of Biosafety and/or Safety and Risk Management?	☐	☐
If Human Source or Non-Human Primate Material is being used, has the material been treated prior to use in the laboratory (such as formalin fixing or heat treatment)?	☐	☐

Will you be using any of the following Human and/or Non-Human Primate Biological Material: ☐ Blood ☐ Serum ☐ Cells ☐ Cell Culture ☐ Tissue ☐ Feces ☐ Urine ☐ Bones ☐ Saliva ☐ Other: Please list here: Click here to enter text.	☐	☐

14. Are you working with a Select Agent or Toxin? ☐Yes ☒No. If yes, please explain. If no, go to Section 15.

Click here to enter text.

15. Certification and Signatures

The information contained in this application is accurate and complete. I am familiar with and agree to abide by the provisions of the current NIH Guidelines, the NIH Guide for Grants and Contracts, other specific NIH instructions pertaining to the proposed project, local, state and federal regulations, and any applicable GSU policies and procedures.

In addition, I agree to abide by the following requirements:

a. I will initiate no recombinant DNA research subject to the NIH Guidelines until that research has been reviewed and approved/registered with the Institutional Biosafety Committee (IBC).

b. I will follow appropriate biosafety level laboratory techniques in the research.

c. I will comply with all shipping requirements for biological materials.

d. I will make available to the laboratory staff copies of the approved protocols that describe the potential biohazards and the precautions to be taken.

e. I will train staff in: good microbiological practices and techniques required to ensure safety for this project, in the procedures for dealing with accidents, and in waste management procedures.

f. I will supervise staff, correct work errors, and conditions that could result in breaches of the NIH Guidelines, local, state or federal regulations, or any applicable GSU policies or procedures.

g. I acknowledge the reporting requirements of the NIH Guidelines recombinant DNA spills. Specifically, Section IV-B-2-b-(7) of the NIH Guidelines requires that any significant problems or violations of the NIH Guidelines and any significant research related accidents or illnesses to the appropriate institutional official and the NIH OBA within 30 days. Appendix G (http://oba.od.nih.gov/oba/rac/guidelines_02/Appendix_G.htm)of the NIH Guidelines specifies certain types of accidents that must be reported on a more expedited basis. Spills or accidents in BSL-2 laboratories resulting in an overt exposure must be immediately reported to NIH OBA, as must overt or potential exposure in high containment (BSL-3 and BSL-4) laboratories.

By signing or marking the electronic signature block below, I certify that I have read and understood this form and that the information I have provided is true to the best of my knowledge. Further, I agree to adhere to the requirements within this document and understand that I will be held responsible and may be subject to disciplinary action, for any omissions or misrepresentations.

	7/7/15

Matthew W. Brewer	
Principal Investigator (type name above) ☒Check for electronic signature. The file can then be returned via email to Biosafety Officer at rmuller1@gsu.edu.	**Date**
GSU Biosafety Officer	**Date**
IBC Chair	**Date**